

REMARKS

By this Amendment, claims 1, 10 and 13 are amended and claims 16, 17 and 18 are newly added. Support for amended claims 1 and 13 and newly added claims 16, 17 and 18 may be found, for example, in FIGS. 3-8 and their corresponding description in the detailed description. After entry of this Amendment, claims 1-18 will remain pending in the patent application. Accordingly, reconsideration and allowance of the present patent application based on the foregoing amendments and following remarks are respectfully requested.

Applicants note that a certified copy of the foreign priority document was filed with the original application. Therefore, a copy of the submission (including the first page of the priority document) and the stamped postcard are enclosed.

Claims 1-8 were rejected under 35 U.S.C. §102(b) based on Deguchi (U.S. Patent No. 6,638,672). The rejection is respectfully traversed.

Claim 1 is patentable over Deguchi at least because this claim recites a lithographic projection apparatus comprising, *inter alia*, a purge gas system to supply said compartment with a purge gas, said purge gas system comprising a controllable flow restrictor constructed operatively associated with, and constructed and arranged to supply the purge gas to, an inlet of said compartment and a controller constructed and arranged to control said flow restrictor to restrict a flow of purge gas through said inlet when contamination in said compartment is below a threshold level. Deguchi does not teach or suggest an apparatus including these features. Therefore, Deguchi does not teach or suggest each and every feature recited by claim 1 and, as a result, cannot anticipate claim 1.

Deguchi discloses a lithographic system including a coating and developing apparatus, a load lock chamber and an exposure apparatus, which are each housed within a separate chamber. Deguchi discloses that the lithographic system further includes flow rate controllers 29a-b, ejection nozzles 27a-b and oxygen concentration meters 28a-b. Flow rate controllers 29a-b control gas supplied to ejection nozzles 27a-b based on measurements from oxygen concentration meters 28a-b. Deguchi teaches that after coating, a wafer is transferred from the coating and developing apparatus to the load lock chamber via a gate valve 24a and then from the load lock chamber to the exposure apparatus via a gate valve 24b. In Deguchi, a purge gas is ejected by the ejection nozzles 27a-b to create a gas curtain when the wafer is transferred from one chamber to another.

Deguchi is, however, silent about a controllable flow restrictor constructed operatively associated with, and constructed and arranged to supply the purge gas to, an inlet

of the compartment and a controller constructed and arranged to control said flow restrictor to restrict a flow of purge gas through said inlet when contamination in said compartment is below a threshold level. Deguchi merely discloses that the controllers 29a-b control purge gas supplied to ejection nozzles 27a-b. Deguchi does not teach or suggest a controller constructed and arranged to control a flow restrictor to restrict a flow of purge gas through an inlet.

In the Office Action, the Examiner identified the flow restrictor as being the gate valves 24a-b. Applicants respectfully disagree and note that the gate valves 24a-b do not supply purge gas, much less restrict a flow of purge gas through an inlet (through which the purge gas is supplied) of the compartment when contamination in the compartment is below a threshold level. Deguchi is silent about this feature. In contrast, as noted above, the gate valves 24a-b merely allow the wafer to pass between process status (*see e.g.*, col. 6, lines 33-36). Furthermore, the controllers 29a-b do not control the gate valves 24a-b. For at least these reasons, it is respectfully submitted that claim 1 is patentable over Deguchi.

Claims 2-8 are patentable over Deguchi at least by virtue of their dependency from claim 1 and for the additional features recited therein.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-8 under 35 U.S.C. §102(b) based on Deguchi are respectfully requested.

Claims 1-15 were rejected under 35 U.S.C. §102(e) based on Murayama (U.S. Application Publication No. 2003/0035087). The rejection is respectfully traversed.

Claim 1 is patentable over Murayama at least because this claim recites a lithographic projection apparatus comprising, *inter alia*, a purge gas system to supply said compartment with a purge gas, said purge gas system comprising a controllable flow restrictor constructed operatively associated with, and constructed and arranged to supply the purge gas to, an inlet of said compartment and a controller constructed and arranged to control said flow restrictor to restrict a flow of purge gas through said inlet when contamination in said compartment is below a threshold level. Murayama does not teach or suggest an apparatus including these features. Therefore, Murayama does not teach or suggest each and every feature recited by claim 1 and, as a result, cannot anticipate claim 1.

Murayama discloses an exposure apparatus confined in a chamber 9, the inside of which is maintained at a fixed temperature by means of an air-conditioning apparatus 10. Murayama also discloses that the ambient air outside the chamber 9 is introduced into the chamber 9 through an air inlet 22, and the gas in the local atmosphere in the chamber 9 is recirculated by means of a gas-delivering fan 11 to pass through an impurity-removing device

20 including a chemical filter and a particulate filter. Murayama is, however, silent about a controllable flow restrictor constructed operatively associated with, and that supplies the purge gas to, an inlet of said compartment. As can be seen in Murayama, the gas-delivering fan 11 is not constructed and arranged to supply the purge gas to, and is not operatively associated with, the inlet 22.

Furthermore, Murayama is silent about a controller constructed and arranged to control the flow restrictor to restrict a flow of purge gas through the inlet when contamination in the compartment is below a threshold level. In Murayama, the control device 26 merely monitors the flow rate and the pressure difference between the negative pressure area and the outside of the chamber, so that when a change or changes are detected in at least one of these factors the control unit 26 outputs a signal to an alarm unit 27 to indicate the abnormality to the operator of the apparatus. (*See* paragraph [100]). Murayama teaches that upon detection of an abnormality, the control unit 26 may stop the operation of the fan 11 in order to cause the negative pressure area to disappear and prevent the leakage of air into the chamber through the sealant breakage. *Id.* For at least these reasons, Murayama cannot anticipate claim 1.

Claims 2-12 are patentable over Murayama at least by virtue of their dependency from claim 1 and for the additional features recited therein.

Claim 13 is patentable over Murayama at least because this claim recites a device manufacturing method comprising, *inter alia*, purging a compartment of the apparatus with a purge gas, a flow of the purge gas through an inlet of the compartment being restricted using a controllable flow restrictor, to supply gas to said inlet, when contamination in the compartment has fallen below a threshold level. Murayama does not teach or suggest an apparatus including these features. Therefore, Murayama does not teach or suggest each and every feature recited by claim 13 and, as a result, cannot anticipate claim 13.

In Murayama, the fan 11 does not supply purge gas to the inlet 22. Furthermore, Murayama is silent about restricting purge gas through the air inlet 22 when the contamination in the compartment has fallen below a threshold level. Therefore, claim 13 is patentable over Murayama.

Claims 13-15 are patentable over Murayama at least by virtue of their dependency from claim 13 and for the additional features recited therein.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-15 under 35 U.S.C. §102(e) based on Murayama are respectfully requested.

Claims 16-18 are newly presented and define additional subject matter that is novel and non-obvious over the art of record. Claims 16 and 18 depend from claim 1 and are patentable over Deguchi, Murayama or a combination thereof for at least the same reasons provided above in connection with claim 1, and for the additional features recited therein. Claim 17 depends from claim 13 and is patentable over Deguchi and Murayama for at least the same reasons provided above in connection with claim 13, and for the additional features recited therein. Therefore, it is respectfully submitted that claims 16-18 are in condition for allowance.

Applicants have addressed all the Examiner's rejections and respectfully submit that the application is in condition for allowance. A notice to that effect is earnestly solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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